Patent claims

1. Method for transmitting data signals in a communication system with access organized on a distributed basis to the access medium using a number of transmission modes by transmitting a pilot signal from transmitter to receiver,

Calculation by the receiver of an assignment table in respect of the transmission modes using the received pilot signals,

Transmission of the assignment table from the receiver to the transmitter and

10 Transmission of the data signals (Data) using the transmission modes in accordance with the assignment table from the transmitter to the receiver or from the receiver to the transmitter

2. Method in accordance with Claim 1, for which the basics are specified in accordance with IEEE 802.11.

15 3. Method in accordance with Claim 2, where the pilot signals are transmitted in an RTS message.

4. Method in accordance with Claim 2 or 3, where the assignment table comprises a bit loading table for adaptive modulation and/or expansion data for expansions of the physical layer, which extend

20 beyond Standard IEEE 802.11a or other standards of the physical layer.

5. Method in accordance with one of the Claims 2 to 4, where a request from the transmitter for adaptive modulation and/or for expansions of the physical layer which extend beyond Standard IEEE

25 802.11a is made in an RTS message.

6. Method in accordance with one of the Claims 2 to 5, where a request and/or acknowledgement from the receiver in respect of adaptive modulation and/or expansions of the physical layer which extend beyond the Standard IEEE 802.11a are transmitted in a CTS message.

7. Method in accordance with one of the Claims 2 to 6, where the assignment table is transmitted by the receiver in a CTS message.

8. Method in accordance with one of the Claims 2 to 7, where a communication terminal includes both transmitter and also receiver functionality and an assignment table is transmitted either by the receiver to the transmitter or vice versa.

9. Method in accordance with Claim 8, where the assignment table is employed in the data transmission packet (Data).

10. Method in accordance with one of the Claims 2 to 9, where for transmission of the assignment table at least one data symbol, preferably three data symbols, each consisting of 24 bits, are used.

11. Method in accordance with one of the Claims 2 to 10, where the use of a specific expansion of the physical layer which extends beyond Standard IEEE 802.11a is confirmed in a CTS message..

12. Method for transmitting data signals in a communication system with centrally organized access to the transmission medium using a number of transmission modes, by

Transmission of at least one pilot signal from the transmitter to the receiver,

Calculation by the receiver of an assignment table in respect of the transmission modes using the received pilot signals,

5   Transmission of the assignment table from the receiver to the transmitter and

Transmission in accordance with the assignment table of the data signals using the transmission modes transferred in the assignment table from the receiver to the transmitter.

10   13. Method in accordance with Claim 12, where the data to be transmitted is modulated with a fixed modulation scheme provided there is no assignment table present in respect of the transmission modes.

14. Method in accordance with Claim 12 or 13, where the assignment
15   table comprises a bit loading table for adaptive modulation and/or expansion data for extensions of the physical layer which extend beyond the Standard IEEE 802.11a or other standards of the physical layer.

15. Method in accordance with one of the Claims 1 to 14, where the
20   communication system is a multiple access system and especially a CSMA system, preferably according to the IEEE 802.11 Standard.

16. Method in accordance with one of the Claims 1 to 15, where the transmission modes are at least partly the result of an adaptive modulation.

17. Method for transmission of data signals, where the timing of a method in accordance with one of the Claims 1 to 11 and a method in accordance with one of the Claims 12 to 16 is interleaved.